STRAWBERRY GROWING.

The Present and Future of the Industry in North Carolina.

[Paper read before the Farmer's Convention at Raleigh, N. C., July 22, 1903, by O. W. Blacknall, of Vance Co., N. C.]

The possibilities of strawberry growing in Eastern North Carolina far surpass those of any other part of the United States, if not of the world. These possibilities are the result of natural conditions and are eternal. When Nature's hand dug the Atlantic's bed and piled up parallel thereto the great Appalachian chain the work was begun. When by wave action and attrition she bordered this belt with a liberal fringe of flat alluvial soil, and threw forward on its northward swing the warmth-bearing current of the Gulf Stream, her part of the work was complete. She had not only made the ideal soil for the strawberry, which revels in humus, but she had by placing the sea one on hand and at just the right interval the mountains, made severe drought, especially at the season when this fruit (which is 95 per cent water), ripens, practically impossible.

When a little later, geologically speaking, civilized man—which after all means eating man—came and huddled in cities to the northward, and wrought himself up into such a rush and stew that his feverish blood must necessarily be acid-cooled, opportunity was ripe for such parts of this region as had facilities of transportation.

NORTH CAROLINA IS THE IDEAL BERRY REGION.

Although this favored strawberry and general trucking belt extends in varying width from Norfolk down through North Carolina and far to the southward, undoubtedly the most suitable part of it for growing the strawberry on a vast commercial scale lies in this State. The reason for this that this fruit ripens here just at the time when the weather at the North grows spring-like enough to create an immense demand for it, but still too early to meet with serious competition from other sources of supply. Either an earlier or later ripening season would not be near so good. Florida ripens berries a great deal earlier, but the demand is then limited, and if the millions of quarts of berries which we raise were thrown on the market at that season they simply could not be sold at all, and we should have to cut down our supply to fit the moderate demand.

As it is we may safely grow all the good berries that we can pick and ship in proper condition. The comparatively narrowness of the trucking belt will forever prevent the great glut of strawberries even now so often occuring in the West. And the mountains will doubtless always remain barrier sufficient to prevent an influx of enough Western berries to glut our ever growing Eastern market.

The West can grow more berries to the acre than we can, provided drought neither destroys the plants the summer before nor the berries during fruiting time. But through most of the strawberry regions of the West drought is a foe ever to be reckoned with.

Even under the most favorable weather conditions the Western growers are far less favorably situated than ours of North Carolina. The region in which berries can be grown there is so broad, ripening and throwing on the market so many berries at the same time, that prices are and must forever, as a rule, remain lower than with us. It might be argued that the increase and growth of large cities in the West would gradually equalize supply and demand there as has been the case here. But here the sea is a great factor. As long as trans-Atlantic commerce lasts, not to speak of the manner of gadding the earth, just so long will the seaport cities outgrow and outbuy those inland. The result of these conditions, I repeat, must ever be to make strawberry growing and trucking generally more profitable in the East than in the West.

But enough as to possibilities. It is good to know their extent so that we may not fail in enterprise and energy to avail ourselves of them. It is none the less essential that we know the dangers and drawbacks in order that we may, if possible, avoid them.

A TWOFOLD DANGER.

This danger, while twofold, seems to arise largely from the same source There is a deterioration of quality through carelessness in cultivating the plants and in picking and handling the crop; and a serious curtailment of the crop through disease and the ravages of weevil and insect pests. As above stated, these troubles arise largely from the same source—from overcropping and the lack of rotation.

Overcropping, the growing of a larger acreage than is justified by the quantity of land at one's disposal, necessarily prevents rotation, which is more essential with the strawberry than perhaps any crop that grows. A man begins by putting, say one-tenth of his land suitable for strawberries in that crop. He clears $100, $200, or perhaps a great deal more, an acre. He rapidly increases his acreage with more or less success till either all of his available land is in strawberries, or so near all of it that rotation is impossible. Consequently the same lots or fields are kept in strawberries year after year, or perhaps plowed up and given one grudging crop of cowpeas or some kind of soiling or summer crop and then hurried back into strawberries again.

In a few years there comes a change. The plants lose their old time color and vigor. The berries, despite better cultivation and manuring than ever, won't "size up." It is harder to get them picked because picking is more tedious.

Not all his big plans and air castles can refute the stern logic of facts, or of checks, which are the same thing. For every year his checks, his returns, grow smaller per acre. He blames the weather, the railroads, the commission men, the trusts, the Amendment—everything but the right thing.

RATATION NEEDED.

The truth is that his land has, to use a slangy but expressive term, simply "berried out," or become "berry sick," and its owner, unless he can change his methods radically, is on the high road to bankruptcy.

One evil begets another evil. His unrotated fields and feeble plants become an inviting harbor for all pests and diseases. Thus the two evils have practically the same source. And it is hard to exaggerate in words the insiduous power for harm of either of these evils.

The glib paradox that half is more than the whole, becomes a fact when applied to strawberry acreage. Better in the long run one acre properly rotated than two, three, nay, than five kept to dwindle on soil that protests in so many ways against such unwisdom. And with proper rotation would come naturally many better things—smaller acreage, better cultivation, better manuring, better picking, better packing, and better profits. The diseases and insect pests that attack the strawberry plants have not yet proven quite as harmful as those the general fruit grower has to contend with. Though in the aphis and the weevil we see evils which will be great or small in proportion to the intelligence and perseverance with which they are met and combated.

FIGHTING INSECT PESTS.

Owing to the nature of the strawberry plant it is hard to successfully combat either disease or pests on it. It grows so low, amid clods and trash, that spraying can not be as thorough and effective as with fruit trees, whose every leaf and limb can be covered bottom and top. Mr. Sherman, our zealous and efficient State Entomologist, can be safely relied on to lend all possible aid to the growers in their battle with pests. He will at the same time inform them of the difficulties to which I have alluded.

Twenty-eight years' experience in strawberry growing has convinced me that these pests and diseases, like the devil, can best be fought with fire. Burn them up. But how burn pests and diseases and spare plants? It can be done, and we find the material right at hand, and at just the proper time to do it. As soon as the crop is gathered mow the plants as closely as possible. Let the mowed plants dry for a day or two. Then on a dry, breezy day loosen up the straw mulch and set fire to the field along its windward side. It will burn quickly over, leaving the field as clean as a floor. Not a vestige of trash or plant will be left. Diseases, pests and weed seed must then be at least largely destroyed.

FIGHTING WITH FIRE

In a few days a clean growth of vivid green foliage will appear and in a week or two it will be hard to tell that fire ever swept over the field. I have never known a plant killed by the burning, though with an excessively heavy mulch and a very still day it might be possible to do harm, but it is most unlikely.

Cultivation should of course begin as soon as the burning is done. If spraying is to be done it would probably be best to begin with the stub immediately after the burning.

Burning cannot of course eradicate the aphis or root louse. Proper and timely care can destroy them by digging up and burning the infested plants (which are apt to be only a few at first), and by a long rotation of that field in other crops. Of course every care must be used to prevent bringing in disease or pests on plants obtained elsewhere.

Lack of time has prevented my dwelling on modes of culture and manuring in this paper. I thought it best to devote the time I had to what I considered more vital questions. I will add that no field should be kept in berries for more than two years in succession and that it should then be rotated for not less than three years in cowpeas or some trucking crop. Of course, cowpeas would be best, and by saving both the peas and the vines for forage, the land can be made to yield a profit on peas.

Bitter Rot in Apples.

Editor of The Progressive Farmer:

To save the larger part of $10,000,000 a year to the apple growers is one of the problems that the Department of Agriculture is seeking to solve. The disease which causes this great loss is bitter rot, which appears on the ripening fruit late in the summer, affecting the whole orchard at once and destroying vast quantities of fruit, when it is almost ready for market. At such a time the bitter rot blasts the apples like the breath of ruin, and the promise of the spring ends in disappointment and decay. This disease is due to a fungus, is most virulent during moist, hot summers. It is most active on apples in the belt of States along the Ohio River from Virginia to Oklahoma and southward, as well as in western New York. Upon investigation it is found cankers appear on the limbs of the apple trees and from these the disease seems to spread to the fruit at the critical time. One of the best methods of combating this plague is carefully to cut out all cankers during the winter. These should be burned at once. All diseased apples on the ground or on the trees should be collected and destroyed. As a further precaution trees should be sprayed with standard Bordeaux mixture at least once before the buds open and again frequently from midsummer until the fruits are almost ripe. In addition to spraying with the regular Bordeaux mixture it is well to spray with Bordeaux mixture to which Paris green or some arsenical poison has been added, just before the petals have fallen and again ten days or two weeks later. This is directed against apple scab, codling moth, and leaf-eating insects, as well as bitter rot and leaf blight.

"TODD."

Washington, D. C.